

Project Design Phase-I Solution Architecture

Date	19 September 2022
Team ID	PNT2022TMID21469
Project Name	Project - Smart Waste Management for metropolitan Cities
Maximum Marks	4 Marks

Solution Architecture:

Solution architecture is a complex process – with many sub-processes – that bridges the gap between business problems and technology solutions. Its goals are to:

- Find the best tech solution to solve existing business problems.
- Describe the structure, characteristics, behavior, and other aspects of the software to project stakeholders.
- Define features, development phases, and solution requirements.
- Provide specifications according to which the solution is defined, managed, and delivered.

Example - Solution Architecture Diagram:

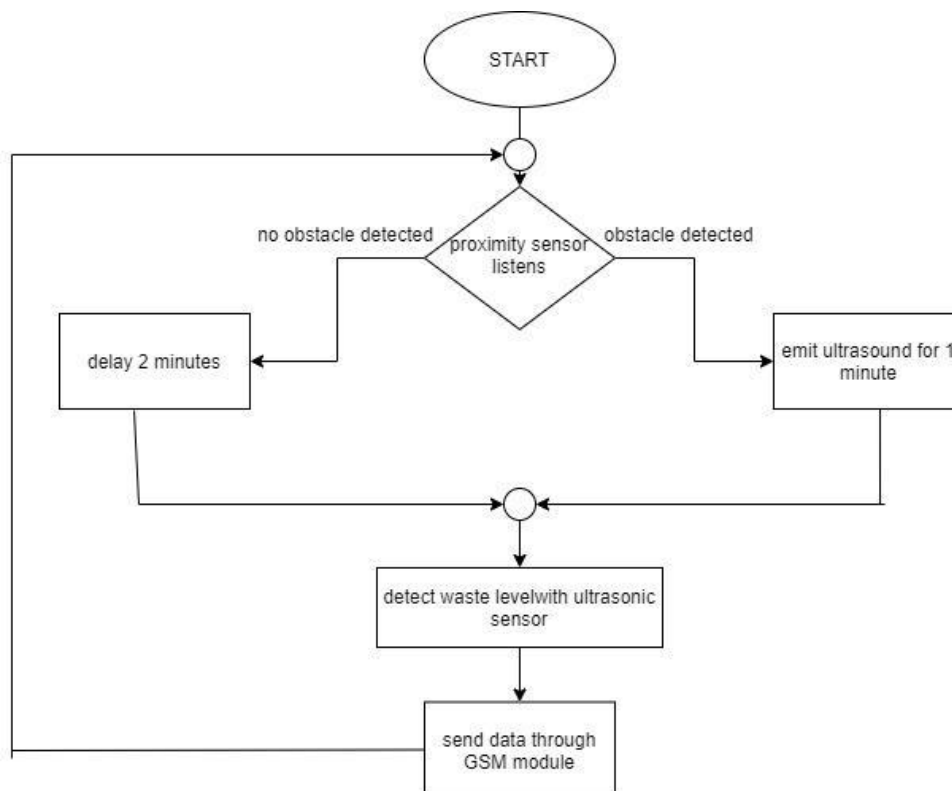


Fig 1 : Flowchart that describes the working of the IoT kit

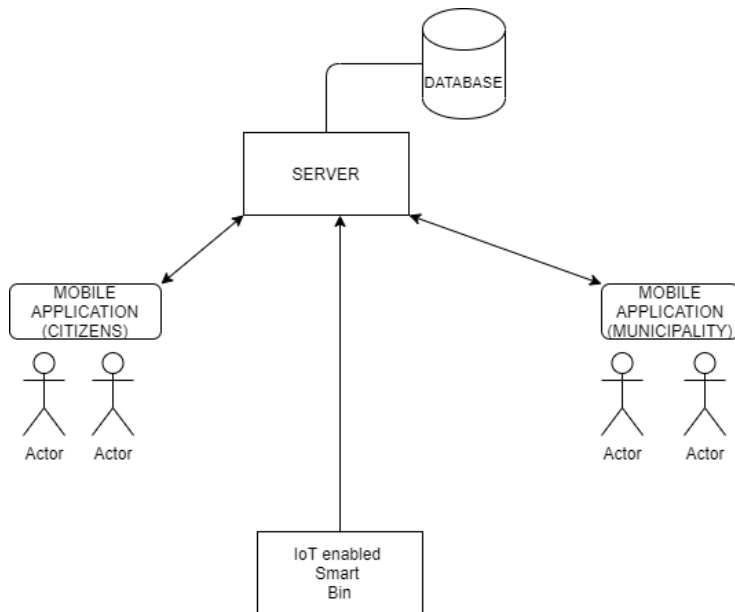


Fig 2 : Block Diagram to illustrate the working of the project

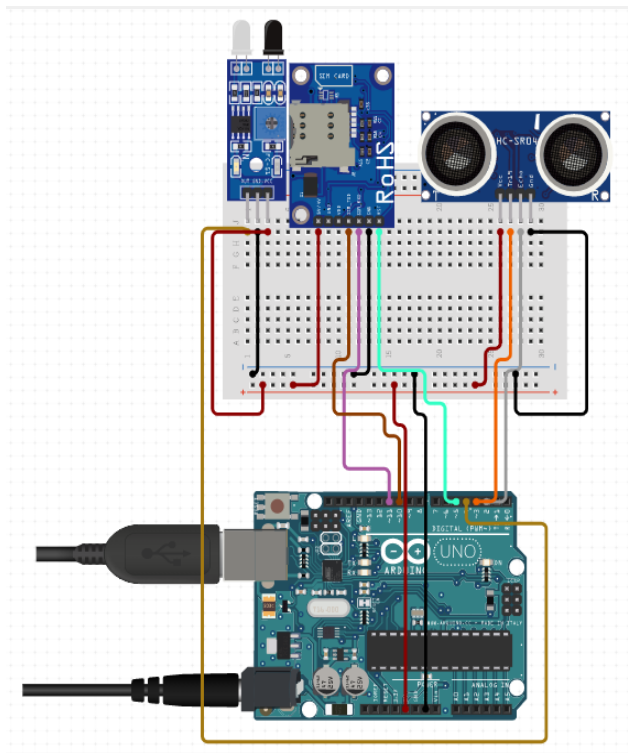


Fig 3 : Schematic Diagram of the IoT kit

In this project we are using a GSM/GPRS module to send data about the dustbin to the mobile application via an RDBMS powered server. Our system provides real time levels about the status of the dustbin.

- It also includes a IR proximity sensor that detects for animals coming near the bin. Upon detection the ultrasonic sensor emits ultrasound of 40 kHz that repels the animals.
- The GSM module sends a HTTP POST request to the server with the dustbin data as the POST parameters.
- The Ultrasonic sensor HC-SR04 detects the level of waste in the dustbin.

- The IR proximity sensor detects for the presence of any object near the dustbin.
- The mobile application performs a GET request to the server and fetches real time data from it

The working can also be understood from the flow , block diagram and the schematic diagram.